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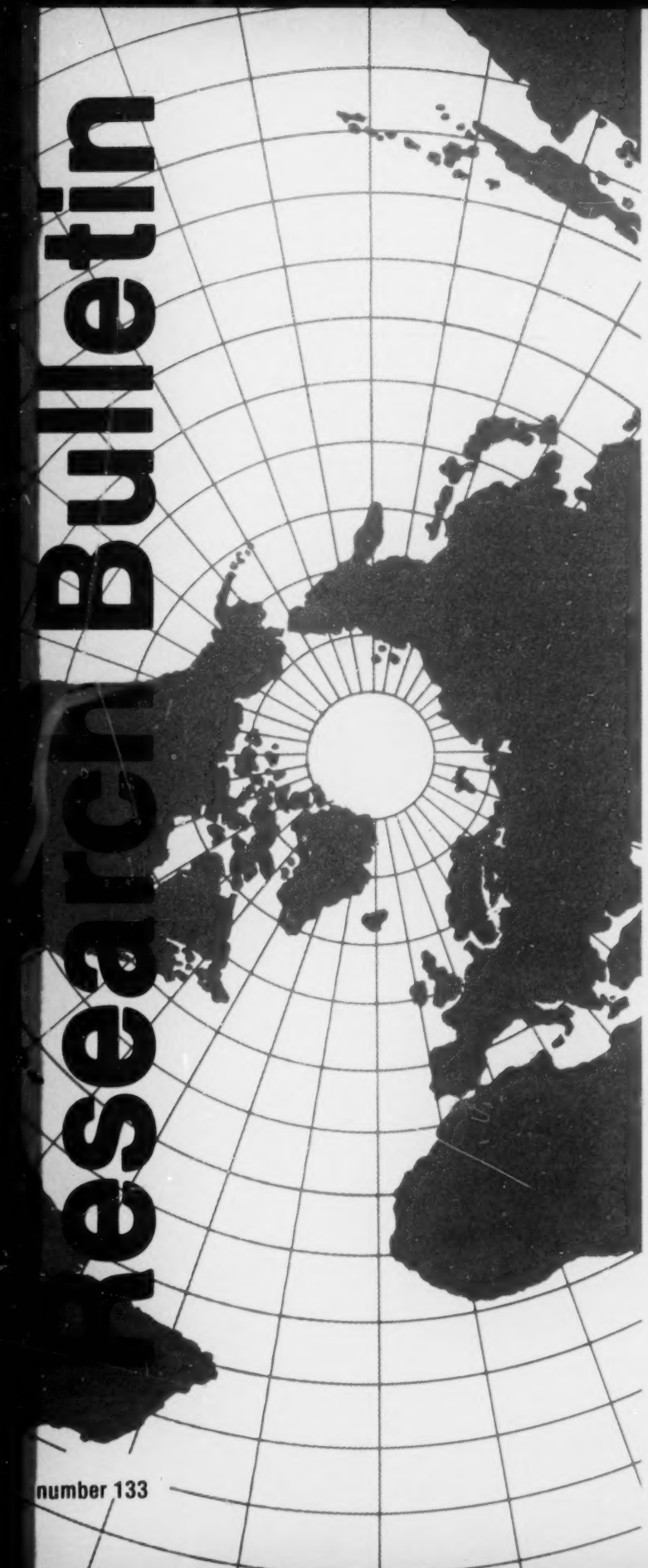

Research Bulletin

number 133

An Appraisal of International Saving Rates

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Acknowledgments

This study has profited from meetings with officials from Citibank N.A., the Federal Reserve System, the U.S. Department of the Treasury, the Bank of England, the International Monetary Fund, the Organization for Economic Cooperation and Development, and the United Nations. The author is especially grateful to Albert T. Sommers, Senior Vice President and Chief Economist, The Conference Board, Inc.; Peter Sturm, Principal Administrator, Growth Studies Division, OECD; Jan van Tongeren, Chief, National Accounts Section, United Nations; and George M. von Furstenberg, Chief, Financial Studies Division, International Monetary Fund.

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IN COMPARISONS of the economic performance of the major industrial countries of the Organization for Economic Cooperation and Development (OECD), a striking finding is the apparently high proportion of U.S. output (income) that goes to consumption, and the low proportion that goes to saving and investment.[1] According to numerous studies and statements by policymakers, current saving in the United States is not only low in comparison to other countries; within the United States itself, the saving rate is lower now than it was earlier. (See Chart 1.)

Two important conclusions, both with policy implications, are often drawn from these comparisons. First, it is argued that lower saving results in lower rates of growth of capital formation—which, in turn, lead to lower rates of growth for the economy. The policy implication, therefore, is to favor those specific measures that encourage greater saving.

Lower saving also has policy implications for federal deficits. In recent years, the point has frequently been made that, despite the substantial size of U.S. budget deficits measured in billions of dollars, these deficits are relatively small as percentages of the nation's GNP when compared with those of other major countries. Indeed, average annual government deficits in the United States as percentages of GNP have been among the lowest of seven major industrial countries over the five-year period 1978-1982 (Chart 2). However, if saving in the United States is low compared to other countries, and if it is the relationship between countries' deficits and savings that is critical, financing the relatively smaller U.S. deficits (i.e., smaller as a percentage of GNP) may lead to greater pressures on financial markets in the United States.[2] Federal Reserve Board Chairman Volcker has pointed out that U.S. government financing of the budget deficit and off-budget activities accounted for approximately $80 billion (or more than 43 percent) of the $185 billion in net saving in the economy.[3] The lower U.S. deficit, therefore, must still be viewed with concern; only 57 percent of net saving in the United States is available for new capital formation and other private demands.

The present study assesses the apparently wide acceptance of the view that saving in the United States has indeed been low—and declining—and it attempts to place saving rates among countries on a more comparable

Chart 1: Saving Rates Among Countries [1]

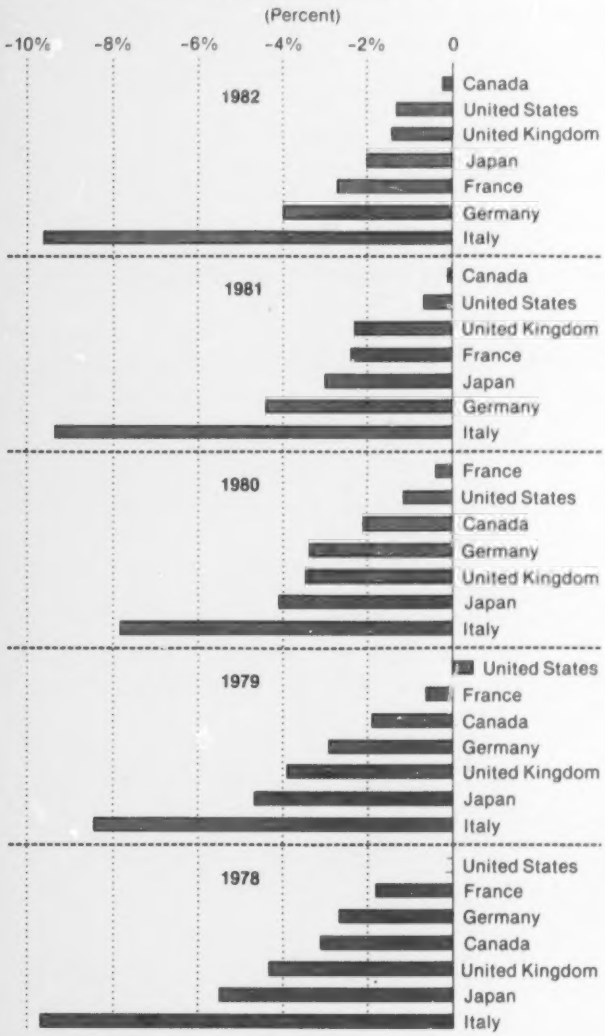
1) Ratio of personal saving to disposable income.
Source: Bank for International Settlements.

[1]Albert T. Sommers, *Testimony before the Joint Economic Committee, on the 1981 Economic Report of the President: Congress of the United States, (First Session) Washington, D.C.*, February 11, 1981. "And we are distinguished from the rest of the world by an investment rate and a productivity experience that have been relatively poor for many years."

[2]Paul McCracken, "Economic Policy in the U.S.: Chapter Two," *Wall Street Journal*, August 27, 1981.

[3]Remarks by Paul A. Volcker, Caperton Lecture, Owens Graduate School of Management, Vanderbilt University, Nashville, Tennessee, October 15, 1981.

Chart 2: Government Deficits or Surpluses[1]



1) As percentage of GNP/GDP.
Source: OECD

statistical basis. It also examines various measures of saving for the major industrial countries, and seeks to identify the main conclusions that can be drawn once statistical adjustments for comparability of figures are made.

The following major conclusions emerge from the study:

- The ranking of countries varies according to the concepts and measures of saving adopted, and the United States is by no means at the bottom of the list for all of the measures used.
- Saving rates in the United States are not lower than in earlier years, according to several measures used.
- Generally, saving rates do not vary substantially from one year to another, regardless of the measures used and the country chosen.
- One major instance in which measures of *net national saving* do show sharp annual variations was the relatively sharp decline in the ratio of net national saving to national disposable income that nearly all major industrial countries experienced in 1974 and 1975, associated with substantially higher prices of energy and the worldwide recession of that period.
- While a number of measures of saving substantially reduce the gap between Japan and other countries, Japan remains at the top of the list for all but a few measures of saving. Depending on the period of time chosen, Italy is the highest ranking country according to certain measures of private and household saving.

Saving and Investment

This study accepts the conventional concepts of saving and investment in which actual (or "realized") saving is, by definition, equal to actual (or "realized") investment, though intended saving and intended investment will normally differ. This approach became widely accepted largely due to the approach of John Maynard Keynes in his *General Theory of Employment, Interest and Money* (1936). (In his earlier *Treatise on Money*, Keynes used a different approach in which saving was, by definition, not equal to investment, and in which an excess of investment over saving meant that firms were increasing their net assets or, when saving exceeded investment, were incurring losses.)

The value of the total output of an economy is equal to the value of its total income. Total income can be divided into two major components—one of which is spent or consumed, and the second of which is saved. In like manner, total output can be divided into two major components—consumption goods and investment goods. The latter includes not only new fixed investment but also additions to stocks or inventories (which are often critical "swing" factors during business cycles).

The dividing lines drawn between output for consumption and investment are arbitrary because judgments differ as to what should be included in each category. But, once these lines are drawn for output, they are reflected on the income side in such a way that saving will equal investment. If, for instance, one country were to treat consumer durables as part of consumption while a second country were to include it under investment, the saving ratio in the second country could, on this reporting basis alone, tend to be higher. Alternatively, if consumer durables were more important in one country than in another, and if both countries were to exclude durables from investment in their national income accounts, the saving ratio in the country in which durables were more important would appear to be lower, on this basis alone. Saving figures in national income accounts do, in fact, exclude consumer durables, and the relative importance of saving among countries is affected by this practice (see below).

The relation between budget deficits and saving of major industrial countries will also be examined below. In terms of the saving-investment identity, saving equals investment plus (or minus) the budget deficit (or surplus).[4]

Aside from these equalities, which are essentially matters of definition, there has been an intense debate as to whether saving governs investment or whether investment, for the most part, determines saving. There have been two broad approaches to this conundrum. The first is, essentially, the "blade of scissors" approach, in which saving and investment are viewed as largely inseparable, and both are seen as equally vital for economic growth.

The second approach, which itself has two variations, stresses the importance of either saving or investment, largely depending upon the time period under review and the conditions of the economy. Those who stress the primacy of saving usually emphasize a longer term period and abstract from the business cycle; or, under short-term conditions, they envision an economy that is close to full-employment conditions. According to this view, while there are some conditions under which saving does not become available for investment, new saving normally flows into forms in which it leads to greater investment.

Those who stress the primacy of investment, however, deal with cyclical conditions in which there are unemployed resources in the economy, and saving, under these conditions, is regarded as a withdrawal from the income stream. Even over longer periods, decisions by business to invest are seen as the main force that is driving the economic system—causing incomes to rise and, thereby, resulting in greater saving for the economy. In short, according to this position, if the investment opportunities exist, the saving that may be necessary to proceed with new projects will be found in one way or another. A large increase in saving will not normally do much to *cause* a substantial increase in investment. The policy implications, of course, are that measures to promote saving will not normally promote substantial increases in capital formation. Rather, according to this second position, attention should center on promoting measures that increase the inducement to invest.

Measure and Definition of Saving

The first important task in comparing saving and investment of various countries is to eliminate those differences in the figures that are due to definition and to "statistical mirage."[5]

Saving is defined as the excess of current receipts over current disbursements. Statistically, it is derived as a residual of these two much larger items; relatively small errors or revisions in either are, therefore, capable of causing—and in the past have caused—significant changes in reported saving.

There are two further distinctions that influence measures and definitions of saving. First, saving may be defined either gross or net of depreciation. Both conceptual and statistical difficulties cloud a uniform calculation of depreciation, but gross saving measures generally show much greater constancy over longer periods of time than do the measures of net saving. Second, the amount or level of saving should not be confused with the *rate* of saving. The need for greater saving and investment does not dictate that the rate of saving must be increased. This leap is often made in the literature, and it is particularly important not to confuse the two in drawing policy implications from saving measures.

It is misleading to refer to "the saving ratio" for an individual country, or to a country's "saving." For an individual country, there are at least three broad measures of saving: national saving, the broadest measure, which includes all sectors of the economy; private saving, which includes the personal and business sectors; and personal or household saving. The dividing lines between each major sector are matters of convention and differ among countries.

Definitions of saving in a given sector vary between different countries and may even vary within the same country. In the United States, for instance, "household saving" in the flow of fund accounts exceeds "household saving" in the national income and product accounts (NIPA), since durable goods are included as saving in the former. The differences are significant for gauging the relative importance of saving. For the year 1980, the net effect is to raise personal saving from $106 billion, according to NIPA, to $181 billion on a flow-of-funds basis; and, for 1981, personal saving rises from $130 billion to $205 billion.

Measures and definitions of saving for different sectors, as reported in each country's NIPA, do, in fact, differ from one another. These figures (Chart 1) show that the household saving rate in the United States (personal saving as a percentage of disposable personal income) is, by far, the lowest of the major industrial countries.

The ranking of countries according to each country's NIPA figures, however, is misleading in that these figures

[4]This is easily seen by adding government expenditures and taxes to national income and output. Income then equals consumption plus saving plus taxes; output equals consumption plus investment plus government expenditures. Since income and output are the same, saving plus taxes equals investment plus government expenditures; or, saving equals investment plus the difference between government expenditures and taxes (i.e., the deficit).

[5]Sommers, February, 1981.

make no allowance for the different components of saving in each country, nor do they allow for differences in the specific ways in which the figures are calculated. The question arises, therefore, as to whether the differences among countries would be really as large if a set of standardized figures were to be used.

A set of more comparable figures is, in fact, available. In order to ensure that the figures for each major country are comparable statistically, the United Nations and the Organization for Economic Cooperation and Development (OECD) publish figures that conform to a standardized system of national accounts (SNA). These figures are provided in response to a special questionnaire, and have the advantage of making accessible to nonexperts an established time series of comparable data for many countries. The main disadvantage is that figures beyond 1979 are not yet available for many countries.

A First Approach to Comparability

According to the more comparable SNA figures, the saving rate of the United States is still the lowest of the major industrial countries when the saving rate is measured by the net national saving of each country as a percentage of its national disposable income. During the period 1975-1979, the saving rate of the United States averaged 5.5 percent annually, well below the 7.5 percent rate in the United Kingdom, the second lowest country. By contrast, the saving rate in Japan, the highest among the major industrial countries, averaged 22 percent annually, or four times the rate in the United States (see Table 1).

The annual average saving rate of the United States is lower for the period 1975-1979 than it was in the preceding five-year period, but the same is true of the saving rate of each of the other major industrial countries. A closer examination of the annual data for each country shows that, with one major exception, year-to-year changes were generally minor. Between 1973 and 1975, substantial declines in saving rates occurred in all major industrial countries. Only Canada went against the trend, temporarily, in 1974; but then, in 1975, its saving rate also plunged.

A second measure of national saving is the gross saving rate, that is, the gross saving of each country as a percentage of the country's GNP or GDP. According to this ratio, the average annual saving rate in the United States is no longer the lowest in all cases: It exceeded that of the United Kingdom during the periods 1960 to 1964 and 1975 to 1979. Throughout each period, this saving rate remained highest in Japan; but, during the period 1975 to 1979, the differences between Japan and the United States narrowed considerably from those shown by the net saving rate. (See Table 2.)

Table 1: Net National Saving Rates, 1960 to 1979

Year	United States	Japan	Germany	United Kingdom	Canada	France	Italy
1960-1964	9.0	n.a.	20.3[a]	9.2	10.8[a]	16.4[a]	17.6[a]
1965-1969	10.4	24.7	18.9	11.9	13.1	17.4	16.6
1970-1974	8.0	28.6	18.7	11.4	13.0	17.8	15.5
1975-1979	5.5	22.0	13.4	7.5	11.6	13.1	13.3
1973	9.6	29.2	18.5	12.4	14.6	18.4	15.2
1974	6.8	26.5	16.3	7.2	16.0	15.9	14.1
1975	3.9	22.2	11.8	5.6	11.6	13.7	10.9

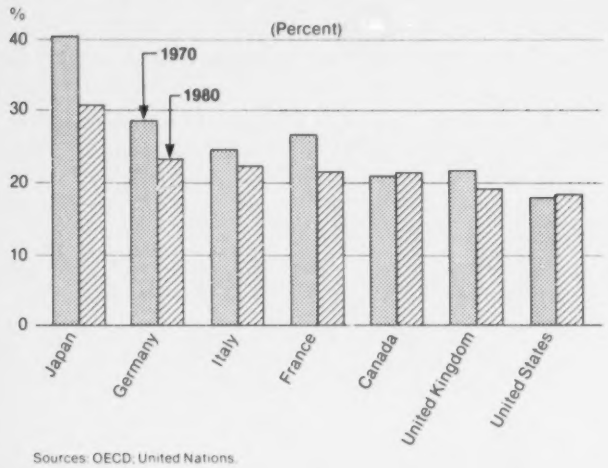
[a]Figures were not available for 1960 and 1961.
Source: United Nations; OECD; The Conference Board.

Table 2: Gross National Saving Rates, 1960 to 1979[a]

Year	United States	Japan	Germany	United Kingdom	Canada	France	Italy
1960-1964	19.2	33.6	27.7	17.8	20.3	24.4	25.1
1965-1969	20.0	34.5	26.6	19.2	22.9	25.4	23.4
1970-1974	19.0	38.4	26.8	19.8	22.3	25.7	22.6
1975-1979	18.7	32.0	22.8	18.2	20.9	22.8	22.0
1973	20.7	39.2	26.6	21.1	23.5	26.0	22.4
1974	19.3	36.3	25.1	16.9	24.8	24.5	21.9
1975	17.5	32.2	21.6	15.4	21.1	23.0	20.1

[a]Gross saving as a percentage of Gross Domestic Product.
Source: OECD; The Conference Board.

Chart 3: Gross Saving Rates



Sources: OECD; United Nations.

There is also a much less pronounced decline in the ratio for the United States; and the ratios of other countries are also generally more stable over the entire period. The gross saving rate for the United States averaged 19.2 percent annually for the period 1960-1964 and 18.7 percent for the period 1975-1979—a decline of only 0.5 percent over the entire period.

A comparison of gross saving rates for the United States, Canada and Japan for the years 1970 and 1980 provides a picture that is the opposite of the general impression of many economists as to what has happened to saving in these countries. It shows that while the gross saving rates of the United States and Canada rose slightly, those of five major industrial countries fell, with the largest decline taking place in Japan, where the rate fell from slightly over 40 percent to less than 31 percent (see Chart 3).

According to the gross saving rate, the annual average of each major country is lower for the period 1975-1979 than it was for 1970-1974 (see Table 2). Moreover, most annual changes are generally minor, with a major exception taking place, once again, between 1973 and 1975. Each country experienced substantial declines in gross saving rates during that period, with the smallest declines taking place in Canada and Italy.

The widespread decline in both gross and net measures of national saving rates between 1973 and 1975 may well be traced to the worldwide recession and to the deterioration in the terms of trade of the major industrial countries that occurred with the quadrupling of oil prices in that period. The relatively small decline in Canada, whose terms of trade did not deteriorate as rapidly as those of the other countries, lends support to this interpretation.

A closer examination of the general decline in measures of national saving in this period shows that the decline was centered in the corporate and government sectors. Among the major countries, saving in the corporate sector rose only in Canada. Declines were relatively greatest in the corporate sector saving component of national saving for Japan, France and the United Kingdom. The largest declines in saving in the government sector took place in the United States, Canada and the Federal Republic of Germany.

Household saving—which, since 1960, has followed a general pattern of declining in recessions and rising during recoveries—rose over the 1973 to 1975 period of declining economic activity in all of the major industrial countries. One interpretation of this reversal of earlier experience is that saving took place largely for precautionary reasons in the household sector. The rises in household-sector saving were especially large for the United Kingdom and France.

Many studies of saving have centered on the saving of the household sector, and many of the widely used comparisons of saving ratios for countries have dealt solely with the household sector. While household saving constitutes the largest component of national saving, the behavior of national saving and its components during the 1973 to 1975 period highlights the dangers in relying solely on household saving as a proxy for changes in national saving.

There are, of course, other reasons for not relying solely on household saving either for purposes of international comparisons of saving or for accurately gauging trends in saving in individual countries. It would be misleading to view in isolation a rise in household or corporate saving that was due to a change in tax legislation, without also taking account of the effects of this action on saving in the government sector.

According to household-saving rates, the United Kingdom experienced the largest increase of all major countries between 1970 and 1980; and the United States and France experienced the largest decreases. Over the same period of time, household saving rates also rose in Japan and Italy, thus yielding a pattern for these four countries that is the opposite of that shown by their national saving rates.

National, Private and Household Saving

In addition to their gross and net national saving rates, countries are often ranked according to their household and private saving rates. These country rankings will vary according to the specific measure used and the year, or other time period, chosen.

There is a widespread view that Japan saves far more than all the other major countries, and that the Federal Republic of Germany is the country with the next highest saving rate. Although Japan has the highest average annual gross and net *national* saving rate for the period 1960-1979, it is not widely appreciated that Italy is the country with the highest gross and net *household* saving rate for the same period. The Federal Republic of

Germany has the third highest *net* household saving rate among major countries, but only the fourth highest *gross* household saving rate, behind Italy, Japan and France. The average annual net household saving rate for the United Kingdom exceeds that of the United States for the period 1970-1979, but the position is reversed for the longer period 1960-1979. For each period, the gross household saving rate of the United States is above the average of that of the United Kingdom.

The placement of countries according to their saving rates again changes if (net) private saving is the measure used as the basis for ranking. Japan, rather than Italy, once again has the highest rate; and the United Kingdom has the lowest annual average for the period 1970 to 1979. According to this same measure, Canada moves ahead of France and is no longer the country with the third lowest rate of saving, as it is according to measures of national and household saving.

There are two broad conclusions that emerge from examining these various measures of saving. First, the saving rate in Japan is either the highest or the second highest, regardless of the measure of saving chosen. Second, the United States and the United Kingdom consistently have the two lowest average annual rates of saving among the major industrial countries. The size of the differences in rates of saving among countries, however, varies considerably, depending on the measures used. (See Chart 4.)

Adjustments to Saving Figures

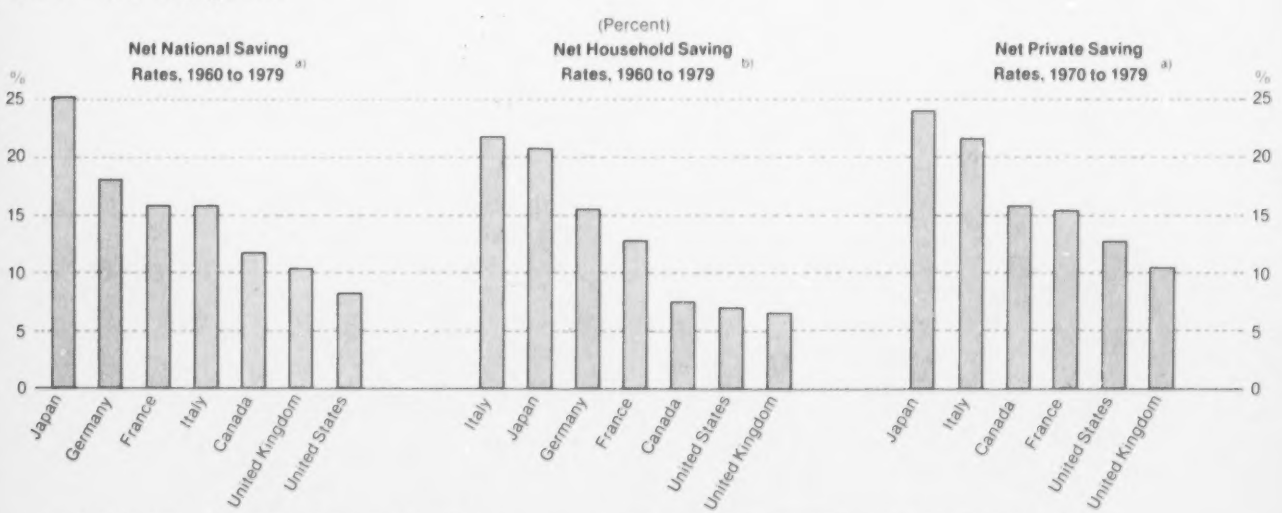
The saving figures published by the United Nations and the OECD represent one view of what can be classified as "saving." There are, however, numerous adjustments that can be made to the gross and net concepts of each of the three major categories of saving—national, private and personal. Indeed, for many purposes, a good case can be made that the adjusted figures are at least as accurate a representation of true saving as are the unadjusted figures. Two experts from the OECD have taken a major step toward clarifying different notions of saving by making a number of adjustments to saving figures for many of the major countries. (Unfortunately, the adjustments could not be made for the Federal Republic of Germany, because their figures do not include the information required to make these adjustments, such as the consumption of fixed capital for the household sector.) These adjustments allow the user to choose the figure that is most appropriate for the purpose at hand.[6]

One important adjustment shows what happens when consumer durables are included as investment, rather than as part of consumption. A second adjustment standardizes different country practices regarding direct and indirect (such as sales taxes and value-added taxes) taxation, and treats all taxes as direct taxes.

Several other adjustments, however, such as removing unincorporated enterprises from the household sector, affect the relation between household saving and that of other sectors but have no effect on national saving. Two

[6]Derek Blades and Peter Sturm, "The Concept and Measurement of Savings: The United States and Other Industrialized Countries," paper presented at the Federal Reserve Bank of Boston Conference on *U.S. Government Policies Affecting Saving: Predicted Impact and Lessons from Abroad*, Melvin Village New Hampshire, October 6-8, 1982.

Chart 4: Net Saving Rates

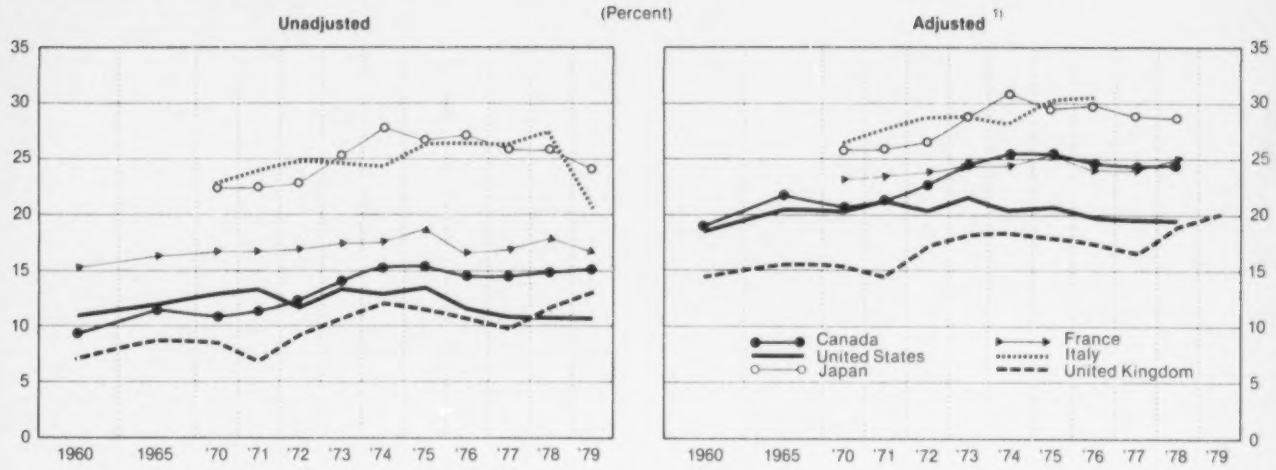


a)Data for Japan are for the period 1965 to 1979, and for Italy 1960 to 1980.

b)Data for Japan are for the period 1970 to 1979, and for Germany 1960 to 1978.

Source: The Conference Board, based on data from the OECD and the United Nations.

Chart 5: Household Saving Rates



1)Adjusted to include expenditures on consumer durables.
Source: OECD

adjustments will be examined here in order to show the magnitude of their effects on countries' household saving ratios.

The first adjustment includes consumer durables as investment. The result of making this adjustment for the United States, the United Kingdom, and Japan are shown in Chart 5. There are two striking effects of this adjustment. First, for the period 1970 to 1978, the average gross household saving rate in Japan still exceeds the average annual rates in the United States and the United Kingdom by wide margins, but the extent of the margin falls from roughly 12.5 percent to less than 8 percent between rates in Japan and the United States. Second, the saving rate in the United States rises sharply and exceeds the rate in the United Kingdom, on average, for the period 1970 to 1979, and it is also higher than the rate in the United Kingdom in each year of the period 1970 to 1978.

A second adjustment shows the effects of standardizing the treatment of private pension transactions and changing the national income accounts so that household transactions with private pensions are treated the same as their transactions with social security systems. The saving rates in Japan, the United Kingdom, and the United States fall when this adjustment is made. The steepest fall in relative terms takes place in the United Kingdom so that the margin between the United States and the United Kingdom widens somewhat further. Since the rate in Japan falls least, the margin between Japan and the countries with lower saving rates widens further after this adjustment.

The combined effect of both adjustments shows that the household saving rate in the United States is higher than that in the United Kingdom, both on average over the period 1970 to 1978, and in each recent year.

The two adjustments made here strongly support the view that the specific measures chosen to represent even the same category of saving (e.g., household saving) make an important difference in international comparisons. Since the use of different, and equally defensible, measures of the same category of saving may yield different rankings (as shown by the comparisons of the United States and the United Kingdom), reliance on any single measure can easily be misleading in ranking countries according to their saving ratios. In making international comparisons, therefore, special care must be given not only to the selection of the broad measure of saving that is most appropriate for the purpose at hand (national, private or household saving), but also to the specific measure chosen to best represent that category of saving.

Other Adjustments

There are further adjustments that can be made to each broad measure of saving. Several may well be relatively important, but serious attempts have not yet been made to quantify their effects on countries' saving rates. They may affect the denominator as well as the numerator of specific measures of saving rates, depending on the measure in question.

As regards these further, and not easily quantifiable, adjustments to saving rates, the OECD experts note that: (1) There is a good case for regarding part or all of educational expenditures as investment in human capital, rather than as consumption. (These expenditures

currently are treated as public and private consumption in the national accounts.) (2) There is a tendency to underrecord a number of flows that have to be imputed in countries' national accounts. (3) Activities of the underground economy may affect saving, but the influence of this hidden sector of the economy on the national accounts is probably greatly exaggerated.

Treating educational expenditures as investment would raise the adjusted saving rates for the United States and Japan relative to those of other OECD countries, because the average expenditure on education in these two countries is substantially higher than it is in the other OECD countries.

To date, there are no estimates of the net effect on saving rates of taking account of the activities of the so-called underground economy and the underrecording of a number of flows that have to be imputed. The net result depends, of course, on whether these activities mainly affect consumption or investment. To the extent that reported consumption and income are lower than they actually are because of these activities, the reported saving rate would be higher than it actually is. If reported investment is lower than it actually is, the reported saving rate would be lower than its actual rate.

The OECD analysts point out that, for the United States and the United Kingdom, the activities of the underground economy that are excluded from the national income and product accounts do not exceed 3 percent of GDP, and may well be less. The reason for this is that many of the activities excluded for tax purposes are captured in the national accounts because of cross checks for these activities, and because expenditures and incomes are equal in the national accounts system, many of these activities show up as expenditures in the accounts.

There is a case for arguing that since expenditures of the underground economy are more likely to be captured in the national accounts than its income, saving rates would be lowered by these activities. However, to the extent that expenditures include the underground economy but income does not include it, the statistical discrepancy should reflect this balancing of greater income than reported in the accounts of the various countries.

Saving rates are also affected by the various amounts of defense expenditures by countries. Although the GNP of the United States is roughly 35 percent of the total of the industrial countries, defense expenditures by the United States account for roughly 60 percent of total expenditures of industrial countries. Since the national accounts treat defense expenditures as consumption, the saving rate of the United States is lower than it would be if part of these expenditures were treated as investment. According to some estimates, nearly 40 percent (or over $86 billion) of U.S. defense expenditures for 1983 may be regarded as investment; if this were the case, the national saving rate (on the U.S. national income accounts basis) would rise by approximately 2½ percent.[1]

The Effects of Inflation

One further factor to consider for the saving rates in the United States and the United Kingdom is that net household saving rates can be adjusted for gains and losses on monetary liabilities and assets. This represents, of course, only a partial adjustment for inflation, but, once again, the main intention is to present an alternative figure for use in appropriate circumstances alongside the conventionally reported figures. It may be used either as another saving figure, that is, as a proxy for "real" saving, or it may be used to help explain the direction of the actual changes shown by the reported figures.

The main adjustment made to nominal income is to separate actual interest payments into two components: one that compensates for the change in the real value of monetary assets and liabilities; and the other that represents "real" interest payments. Since debtors gain and creditors lose from this adjustment, the public sector and the corporate sector show greater "real" saving, while the adjusted saving of the household sector is reduced substantially.

The effects of adjusting partially for inflation on the net saving rate of the household sector are more substantial in the case of the United Kingdom, which has a higher rate of inflation, than they are for the United States. In fact, the rate becomes negative for the United Kingdom in several recent years, and the fall is especially steep in 1974 and 1975. Moreover, the net saving of the government sector becomes heavily positive for the same two years, thereby reversing the conclusion from the unadjusted figures that the net saving ratio of the household sector had risen while that of government had fallen substantially in the 1973 to 1975 period. The net saving ratio for the household sector in the United States is lowered, on average, by several percentage points, but in no case is it negative and in no case is it lowered by more than 3.3 percent. By contrast, in both 1974 and 1975 the fluctuation in the net household saving ratios before and after the adjustment for inflation exceeded 20 percent in the United Kingdom, with the figures moving from positive to sharply negative.

Saving and Government Deficits

One of the key points noted at the outset was that lower rates of saving could add substantially to financial pressures in those countries where government deficits are high relative to saving. The suggestion was that it could, therefore, be misleading to look only at the

[1]For a broadly similar estimate, see Sydney L. Jones, "The Capital Budget Alternative," in Albert T. Sommers, (ed.), *Toward A Reconstruction of Federal Budgeting*. The Conference Board, Misc. Report 83-1, 1983.

relation between government deficits and GNP or GDP.

It is now clear that it is no simple matter to choose any single notion of saving to use in comparisons with government deficits; and the results of these comparisons may well vary according to the measures of deficits and saving that are selected. Further, in any given period, the precise saving figure is what it is because the government deficit is what it is, and vice versa. In addition to this statistical, and substantive, interdependence, there is an element of double counting in many of the measures used in these comparisons. Gross and net national saving, by definition, include government saving or dissaving. Measures that relate the government deficit to national saving, therefore, include the government deficit in both the numerator and the denominator. Moreover, comparisons of the government deficit to national saving that are based on the SNA figures would deduct the consumption of fixed capital for the government sector from gross saving and the deficit. The resulting government deficit would, therefore, be lower than the deficit in the national accounts for countries such as the United States, whose accounts do not distinguish between the capital expenditures and current expenditures of the government sector. To relate the total government deficit to net national saving, as is sometimes done for the United States, is to assume that all government expenditures are current expenditures, which they are not.

There are other ways to view government deficits and saving. If the emphasis is on saving (gross or net), government saving or dissaving can be shown as a percentage of national saving; or government saving can be shown as a percentage of private saving.

For the United States, government deficits as a percentage of gross saving do not generally differ widely from government deficits as a percentage of gross private saving. Major exceptions to this general rule took place in 1975, when the Federal Government's deficit was 31.7 percent of gross saving and 24.5 percent of gross private saving; and again in 1976, when the former was 20.6 percent and the latter was 18 percent.

The same, however, is not the case for measures that relate federal deficits to net national saving and net private saving. Differences of well over 5 percent in these two net measures of deficits occur frequently—in six of the past twelve years. The most extreme difference occurred in 1975, when federal deficits amounted to 116 percent of net national saving and 56 percent of net private saving. Relating the deficit in 1975 to net national saving points up the limitations in viewing these measures too mechanically. To conclude, for instance, that "the federal deficit *accounted for* 116 percent of net saving in 1975" implies the opposite of what really happened that year. Rather than usurping the nation's net saving, the large federal deficit in 1975 was the *result* of the recession and the unwillingness of private borrowers to use (invest) the nation's saving. Attempts by the government to reduce its deficit by raising taxes or cutting expenditures would have complicated rather than solved the problems of that period. The reluctance of the private sector to borrow is confirmed by the developments in credit markets in 1975. Corporate funds raised in credit markets fell from $83 billion in 1974 to $42 billion in 1975, or from more than 43 percent to less than 20 percent of net funds raised by nonfinancial sectors in U.S. credit markets.

If, rather than emphasizing saving, the main objective is to obtain a gauge of pressures on financial markets, the public-sector borrowing requirement of each country may be shown as a percentage of total credit-market funds raised by nonfinancial sectors. Using this measure for the period 1973 to 1980, the percentage of total funds is greatest for Japan and the United Kingdom, averaging roughly 40 percent and 36 percent, respectively. In the United States, the public-sector share averages 26.5 percent annually—the second lowest of five major countries, and slightly below the 27 percent average in the Federal Republic of Germany. In France, the public sector share is 23 percent, the lowest annual average for the five countries. (See Chart 6.)

Investment

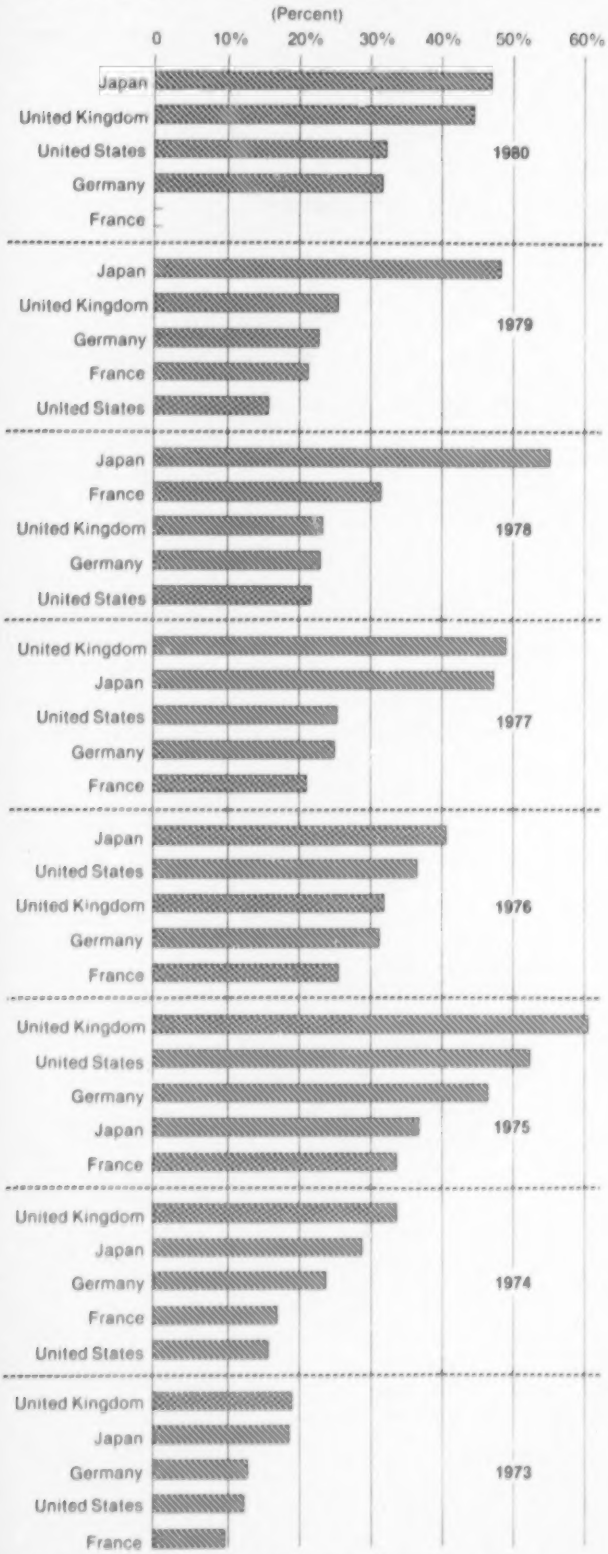
The preceding analysis has dealt exclusively with different measures of saving. However, just as there are many measures of saving for each country, so, too, are there many measures of investment. Since saving is, by definition, equal to investment, gross national saving equals gross national investment and net national saving equals net national investment: In each case, the measure of investment varies with, and is equal in value to, the measure of saving.

Similarly, the adjustments made to each measure of saving, such as those discussed earlier, are reflected in the corresponding measures of investment. The inclusion of consumer durables, for instance, raises both saving and investment by the value of the consumer durables that are added to each.

In international comparisons, gross or net fixed capital formation is frequently used as a broad proxy for investment. Statistically, however, the figure for capital formation is not likely to be equal in value to the corresponding figure for saving. Rather, fixed capital formation normally differs from saving by the amount of the statistical discrepancy, by the value of inventories or "stock," by the amount of net changes in the flow of capital to the rest of the world, and, if private measures of saving and investment are used, by the amount of government saving or dissaving.

The figures for gross fixed capital formation as a percentage of each country's GNP show that Japan is, far and away, the country with the highest percentage of

Chart 6: Government Share of Credit[1]



1)Public sector share of total credit market funds raised by non-financial sectors
Source: OECD

capital formation; and, as was the case with the unadjusted saving ratios, the United States and the United Kingdom are the two countries with the lowest ratios. (These figures do not include consumer durables as part of capital formation. Their inclusion would increase the relative position of the United States.)

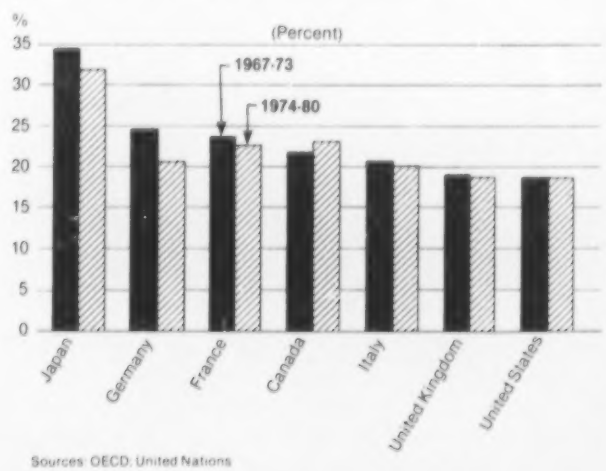
However, a comparison of each country's gross fixed capital formation to its GNP for the periods 1967 to 1973 and 1974 to 1980 shows that the average annual ratio has fallen for Japan, the Federal Republic of Germany, France and Italy. Contrary to initial impressions, it has remained about the same for the United States and the United Kingdom; and it has risen for only one major country, Canada, whose average annual growth of capital formation for the latter period is second only to that of Japan (Chart 7). These data broadly reflect the earlier findings in this study that resulted from comparing each country's gross national saving to its GDP.

Capital Formation and Economic Growth

The importance of increasing the rate of saving and investment lies in the effects on the overall economy—that is, on the extent to which higher rates of investment increase the nation's overall rate of real economic growth. International comparisons of countries' real economic growth with their rates of growth of investment and fixed capital formation do not, however, show a uniform connection, although the experience of several major countries is consistent with a causal relation between the two.

Studies of the connection between capital formation and growth to date yield conflicting results and leave open the question as to the relative importance of investment in determining real growth. The findings vary according to the measures of investment used, the time

Chart 7: Gross Fixed Capital Formation



Sources: OECD; United Nations

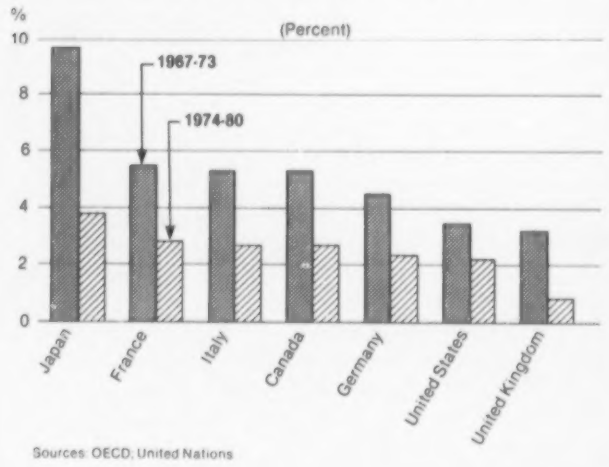
period chosen, and a number of technical adjustments for measuring countries' real investment on a comparable basis.

Real economic growth in Japan, in line with its capital formation, is far higher than the rates of growth of the other major industrial countries. The United States and the United Kingdom, once again, have the lowest average annual rates of growth though, surprisingly, that of the Federal Republic of Germany is only slightly above the average annual growth of the U.S. economy. Real growth in the majority of the major industrial countries does not reflect their relative rates of growth of fixed capital formation.

Although average annual real economic growth in the United States is the second lowest of the seven major countries for the period 1974 to 1980, the decline in growth of the U.S. economy from the earlier seven-year period, 1967 to 1973, has been less (both in absolute and in percentage measures) than that of all the other major countries. This point is seldom made in critical examinations of the performance of the U.S. economy in the 1970's.

The largest decline in real growth, nearly 6 percent annually, took place in Japan. The largest decline in relative measures, however, took place in the United Kingdom, where average annual real growth fell by more than 70 percent. Gross fixed capital formation, as noted above, remained about the same for the United Kingdom during each of the two seven-year periods. Real economic growth in the Federal Republic of Germany, which had averaged a full percentage point above that of the United States during 1967 to 1973, was just about the same as that of the United States during 1974 to 1980. Growth in France, Canada and Italy averaged approximately one-half percent above that of the United States during 1974 to 1980, in each case down substantially from their rates during the earlier period. (See Chart 8.)

Chart 8: Real Growth of Major Countries



Sources: OECD; United Nations

Appraisal of International Saving Rates

This study has shown that there are many measures of saving rates and that the relative ranking of all countries—including Japan— varies according to the measure used and the time period chosen. It has also shown that there are numerous adjustments that may be made to each broad measure of saving: national saving, private saving, and personal saving. According to most adjusted measures of saving, Japan has the highest rate of saving among the major industrial countries, and the United Kingdom, not the United States, has the lowest rate of saving.

Movements in the industrial countries' saving rates during the 1970's have been, in many cases, the opposite of general perceptions as to how saving rates have changed in magnitude and, in some cases, in direction. Between 1970 and 1980, gross national saving rates in the United States and Canada rose slightly, while those of five other major countries fell, with the largest decline taking place in Japan, where the rate fell from slightly over 40 percent to less than 31 percent. Changes in rates of gross fixed capital formation have reflected changes in gross saving for the majority of countries. Japan remains the country with the highest rate of capital formation, but it is also a country in which the average annual rate of capital formation to GNP has fallen, while it has remained about the same for the United States.

In addition to various measures of saving—and adjustments that may be made to each of these measures—saving rates among countries differ because of differences in culture, institutions and stages of development. No attempts have been made to quantify the effects of these differences, but there can be speculation as to the direction of the effects in some cases. It is frequently noted, for instance, that, in Japan, a high percentage of workers over age 60 are still employed and, by itself, this should lower the Japanese saving rate. It is less well appreciated that the primary employment of many Japanese ceases at age 55, and this should increase the saving rate substantially. While it may be difficult to quantify the net effect of these two "institutional" differences, which pull the saving rate in opposite directions, the latter would appear to be the more important of the two, and part of the high saving rate in Japan may be attributable to the earlier retirement age from primary employment.

Despite the important advances in placing saving rates of countries on a more comparable basis, both quantifiable and nonquantifiable differences remain. These differences are probably important enough to call into question any policy conclusions for a single country that are drawn from its relation to the saving rates of other countries. Policy decisions to increase specific measures

of saving should be made largely on the basis of national criteria rather than upon what is happening in other countries. Indeed, there is no economic basis for arguing that the saving rate in the United States should be the same as that of Japan, or of most countries in Europe.

For any individual country, it can be argued that, since saving equals investment, policies should be introduced to increase the rate of saving to promote new investment. Even if policymakers could agree on the appropriate measure of saving, there are at least two further steps to consider before adopting policies to raise the saving rate. It is possible under economic conditions similar to those that most countries faced in 1982 (i.e., high rates of unemployment and low levels of capacity utilization) that policies to increase *rates* of saving could result in far less additional real saving to the economy than other measures that increased GNP more immediately and substantially. And, under more favorable economic conditions than now exist, there is still the question as to whether the government should try to change existing market preferences substantially.

If a country's major goal is to promote investment, it is important to adopt policies that truly increase national saving, rather than merely shift saving from one sector to another. It is also important to decide whether it is more effective to emphasize measures that promote saving or those measures that more directly promote investment. Finally, if a country's ultimate goal is to raise the rates of real economic growth on a sustainable basis, measures to promote capital formation should be considered in the wider context of other and, in some cases, equally important, determinants of real economic growth.

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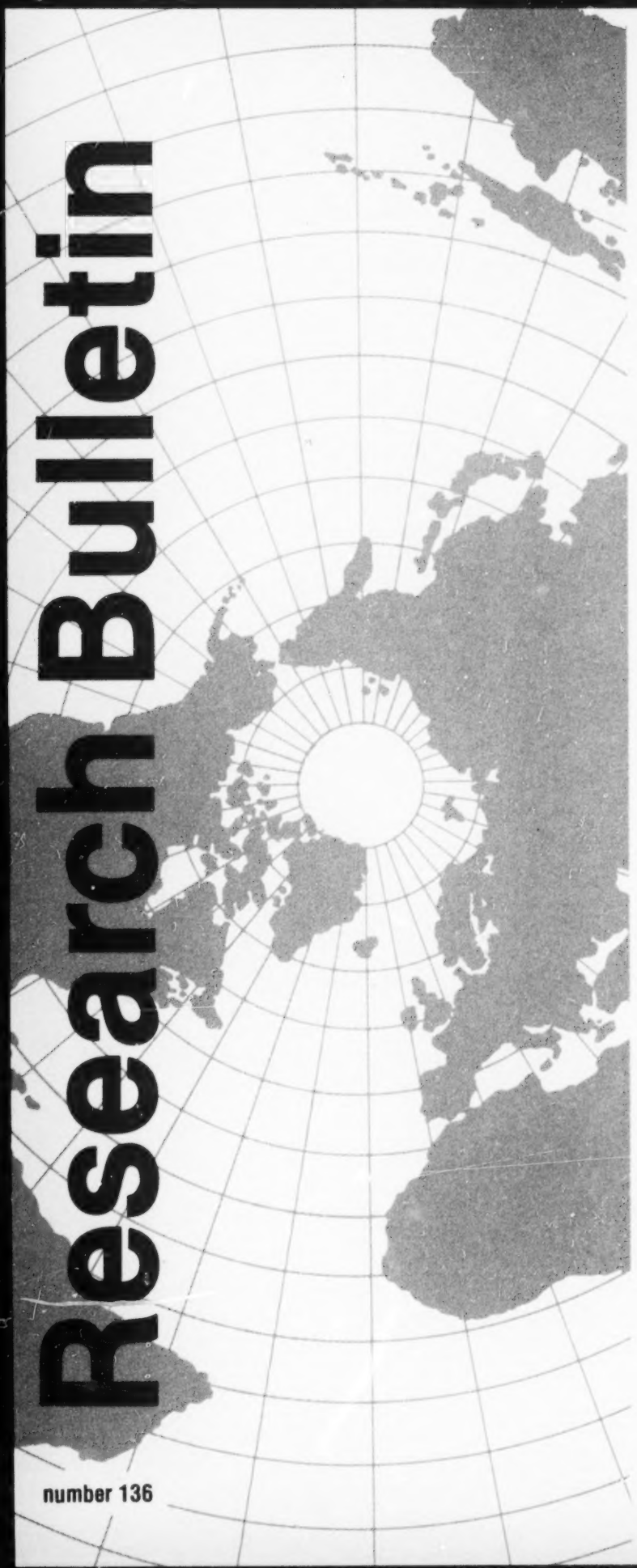

Research Bulletin

International Economic Policies:

Coordinate or Go It Alone?

by John Hein

The Conference Board

number 136

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AT ABOUT THE TIME this report is being distributed, the leaders of the seven largest industrial countries will be meeting in Williamsburg, Virginia, for the 1983 economic summit. As in the previous eight such meetings, from Rambouillet in 1975 to Versailles last year, their major objective will be to informally exchange views on the state of the world economy and to discuss—tentatively, if at all—a joint course of action for the immediate future. There is no way of telling whether the meeting will conclude with an official communique or merely with a less formal press briefing summarizing the discussion. But in either case, as one advance notice has it, the seven leaders "will discuss how the domestic policies and politics of each have impact on the others."[1]

The effect that national economic policies have on other countries and the need to aim for better coordination of such policies—too often, though, that term is not defined further—have been at the center of the current debate concerning the state of the world economy and the means of engineering a lasting recovery. There is no dearth of fashionable buzz words adorning that debate—in addition to policy coordination, we hear of concerted action, combined thrust, joint surveillance, convergence of policies, sharing of international responsibilities, and the like.

To those who have followed the tortured course of international economic affairs over the past decade or so, the discussion has an all too familiar ring. The terms used, the exhortations made, and the warnings sounded all echo the battle cries of the mid- and late-1970's, and recall the skirmishes then fought at international meetings, in the media, and in learned papers. When the world economy was plunged into the 1974-1975 recession—until then, the severest of the entire post-World War II period—coordination, convergence and pulling together were also the slogans of the day.

This study deals with international economic policy coordination in the broadest sense. It first discusses the meaning of the term, the forms such action can take, and how policies were actually formulated—without apparent coordination—following the two oil price shocks of the 1970's. It then looks at two other remedies for economic recovery that have been recommended again recently—what in the 1970's were called the "locomotive" and "convoy" approaches. The final sections of the study examine the role of the major actor on the scene, the United States—specifically the extent to which the rest of the world impinges on the U.S. economy and the general relationship between economic activity in this country and in its major trading partners.

[1]United States Council for International Business, *Release*, February 14, 1983.

Interdependence and National Economic Policies

Much of the advocacy of international policy coordination or concerted action springs from the heightened feeling of interdependence among countries. This growing awareness of the "oneness" of the world is one of the big differences between the 1950's and the 1970's and 1980's. The exploration of space; the worldwide shocks generated by two massive oil price increases; increased global concerns over population, the sea bed, and the environment—all betoken the view of a highly interdependent system.

Yet, we still live and will continue to live in a world of independent nation-states, or what Miriam Camps of the Council of Foreign Relations has called "a mixed system." In her recent *Collective Management: The Reform of Global Economic Organizations*, a study in the Council's 1980's Project, she writes (p. 24):

"We are caught in the process of transition between two modes of thinking about and of dealing with many problems, gradually and erratically moving from what might be called 'international economics and politics' to what might be called 'world economics and politics.' Usually we think and operate in the first mode, but occasionally we use the second. When acting in the first mode, we are seeking a more or less frictionless interaction between the external sectors of 150 or more national economies. . .When acting in the second mode, we are trying to do something rather different and to promote the efficient functioning of a closed global system."

This conflict between rapidly increasing international economic interdependence and the continuing desire for national independence in the sphere of policymaking is really not new. It was spelled out as long as 15 years ago by Professor Richard Cooper of Yale, who saw as the central problem "how to keep the manifold benefits of extensive international intercourse free of crippling restrictions while at the same time preserving a maximum degree of freedom for each nation to pursue its legitimate economic objectives."[2]

Too often, however, policy coordination, invoked in the name of interdependence, is confused in the popular mind with countries moving in the same direction and along the same track, when in fact its dictionary definition implies no more than harmonization or acting in a concerted way. Most thoughtful observers point out—and rightly so—that coordinated action by itself does not necessarily mean simultaneous or parallel action taken by all concerned.

The argument has, in fact, been made that in "normal" periods the aim of policy coordination should be for countries to move in opposite directions—that is, to desynchronize their economic fluctuations in order to avoid worldwide booms and recessions. Indeed, the most wrenching dislocations in recent decades have occurred when cyclical fluctuations were most strongly synchronized among the major countries—as in the Korean boom of 1950-1951, the commodity boom of 1972-1973, and the recessions of 1974-1975 and 1980 and 1982. Coordination is, therefore, seen rather as "a set of mutually consistent policies on the part of individual countries which while respecting the interests of each individual country, collectively add up to an outcome that is satisfactory for the world as a whole."[3] (One would, of course, hope for a "satisfactory outcome" for all economies combined, whether policies are coordinated or not.)

Moreover, the argument continues, while at the present time there is general agreement on the need for more stimulative policies, the actual variations in the type of stimulus ought to be better coordinated. Countries with high interest rates, an overvalued currency, and a large true fiscal deficit—like the United States—should relax their monetary policy. Countries with low real interest rates, an undervalued currency, and a modest fiscal deficit—read: Japan—should cut taxes or increase government spending. This again is a proposition that makes eminent sense; therefore it might be heeded by most countries, whether acting alone or on a coordinated basis.

In fact, much of the discussion recognizes that international economic adjustment is—indeed, cannot be more than—the cumulative result of all the various national actions and that the problems of achieving such adjustment arise increasingly from differences in the respective national economic policies. Still, individual responses to a given common situation have to be differentiated and "each country must contribute in a manner appropriate to its particular situation."[4] In a similar vein, the Commission of the European Communities noted recently that "nothing can relieve each country from its own efforts."[5]

Yet, the blandishments of coordination are dangled before us almost continuously by politicians and the media. Moreover, in both major booms and recessions a prime argument for seeking policy coordination is the sharing of the necessary burden of adjustment and thereby the avoidance of "free rides" by some countries that might not be playing the game. Basically, how are we to conceive of this somewhat elusive term?

Aims and Means of Policy Coordination

At one extreme, policy coordination might mean acceptance of the international economic system and the degree of interdependence it confers and to reconcile all domestic policy measures with its existence. This would involve a more efficient mechanism of automatic adjustment between countries, such as completely freely floating exchange rates and a choice of domestic policy tools that have the minimum external effect.

A middle way—and one that is implied most often when the term "coordination" is used—would involve efforts to adjust national goals and domestic policy decisions to the increasingly international character of the global economic system. At the simplest level, such cooperation calls for no more than an exchange of information about what is being done, or is being considered, for the near future. Such an approach, in other words, amounts to informed decision making at national levels.

A more ambitious form of cooperation would involve the actual coordination of policy instruments, largely to avoid strong external disturbances to one's trading partners. Such cooperation might extend to interest rates, monetary growth rates, and exchange rates. A final, and even more ambitious, form of cooperation calls for actual coordination of policy targets—an almost impossible task since it would require considerable agreement among governments about national preferences and goals.

[2]Richard N. Cooper, *The Economics of Interdependence*. New York: McGraw-Hill, 1968, p. 5.

[3]John Williamson, "Global Macroeconomic Strategy," in *Promoting World Recovery*. Washington, D.C.: Institute for International Economics, December, 1982, p. 31.

[4]Peter B. Kenen, "Concluding Comments," in *From Rambouillet to Versailles: A Symposium*. Essays in International Finance, No. 149, Princeton University, December, 1982, pp. 37-38.

[5]Commission of the European Communities, *European Economy*. Luxembourg, November, 1982, p. 18.

The View From Washington

Q. Would the United States alter domestic economic policies because of their unfavorable impact on foreign countries?

A. I think we would agree to be conscious of the impact of our policies on others. We are getting very conscious of the effects of domestic policies on the international market. And probably as a result we would tend to temper some of the things that we do.

Interview with Treasury Secretary Donald T. Regan, by Clyde H. Farnsworth, *The New York Times*, March 29, 1983.

I have argued elsewhere that the type of policy coordination that appears to have emerged from the successive economic summits amounts to little more than reaching some kind of understanding on "shared objectives."[6] This is probably the most that can be hoped for, since the summit countries (and their smaller partners) are characterized by vast differences in the perception of various economic danger signals and in the efficacy of various conventional policy tools, as well as in the influence exerted on economic events and policymaking by political events and constraints.

Looked at another way, at the lowest level coordination can be interpreted in a negative way—simply not doing anything that would upset the applecart. That would mean, for example, the avoidance of explicit beggar-my-neighbor policies, such as the use of trade barriers or exchange-rate policies to help solve domestic economic problems. This sort of "cooperation" has been more or less an underlying assumption of the post-World War II international economic system.

As Marina Whitman, formerly of the University of Pittsburgh, has argued, there is some long-standing precedent for the adaptation of domestic economic policies to conform to international requirements.[7] The increasingly stricter "conditionality" of International Monetary Fund assistance to member countries involves just such modification of domestic policies to achieve adjustment within an international framework. And such modifications have been demanded not only of developing-country borrowers, since the conditions imposed by the Fund in loan negotiations with both Italy and the United Kingdom in 1976 also represented such intervention or "coordination." The question then is whether such adaptation can take place continuously and in a spirit of cooperation, rather than intermittently and only in situations of slumping economic activity and balance-of-payments difficulties.

As Whitman also pointed out, it is quite easy to assume that policy coordination has in fact occurred, when common exogenous disturbances have merely provoked common policy responses in the major countries. Moreover, because of the assumed randomness of policy responses, one might expect that the relative magnitude of fluctuations in the world economy as a whole would be smaller than the average magnitude experienced by individual countries. Economic disturbances, however, have been found to be systematic rather than random so that these dampening effects of the "risk-pooling argument" fail to apply. Rather, asymmetries in economic behavior and in policy responses cause the international system to transmit economic disturbances between countries and tend to magnify them in the transmission process.

Oil Shocks and International Economic Policy

The history of the past decade furnishes us with a good example of the apparent lack of coordination of economic policies among the major industrial countries. The two oil price increases of 1973-1974 and 1979-1980 (also referred to as 'OPEC I' and 'OPEC II') provoked different responses among the major oil importers, and it is probably accurate to state that these responses were not coordinated or the result of consultation among them.[8]

The economic impacts of OPEC I and OPEC II on the industrial world were roughly comparable. It is true that the second price hike—from $13 to $31 a barrel—looks less severe than that of OPEC I, when the price quadrupled in about a year. But such a comparison is slightly misleading because of the relatively low level—about $2.80 per barrel—from which oil prices took off in 1973-1974. In aggregate terms, both price hikes forced the major industrial countries to pay an "oil tax" equivalent to about 2 percent of their combined national incomes.

Despite the similar economic impact on both occasions, the policy reactions of the major countries were more determinedly anti-inflationary the second time around. Following OPEC I, some countries had moved to offset the "oil tax" of some $68 billion in 1974 by

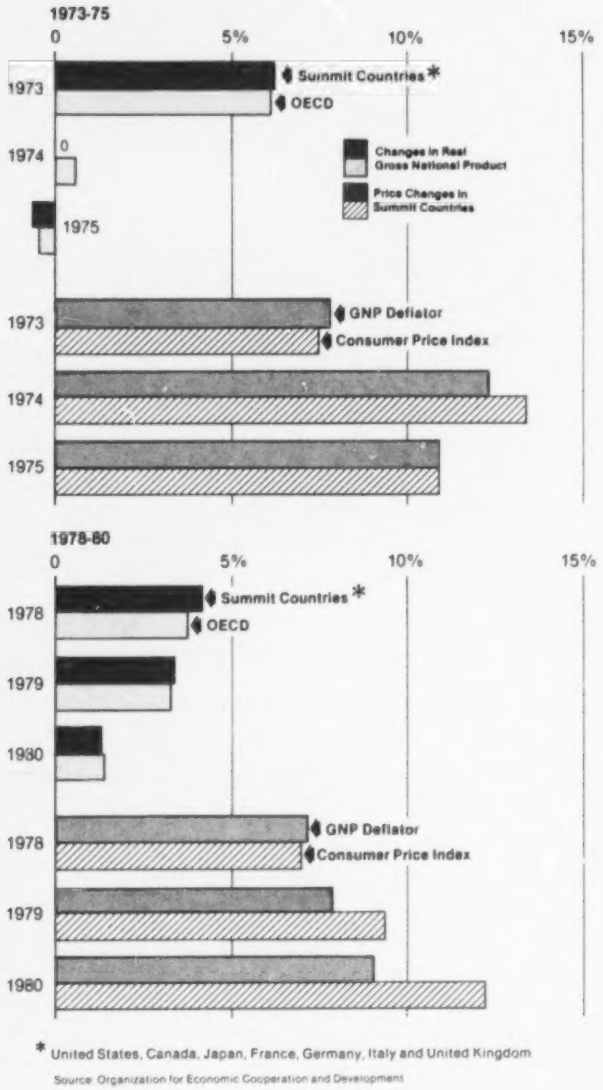
[6]John Hein, *From Summit to Summit: Policymaking in an Interdependent World*. The Conference Board, Report No. 774, 1980.

[7]Marina v. N. Whitman, *Sustaining the International Economic System: Issues for U.S. Policy*. Essays in International Finance, No. 121. Princeton University, June, 1977.

[8]For a detailed discussion of the policy response to the two oil price increases, see John Hein, *Oil Shocks and Economic Adjustment*. The Conference Board, Research Bulletin No. 113, 1982.

Chart 1

Growth and Inflation, 1973-75 and 1978-80



* United States, Canada, Japan, France, Germany, Italy and United Kingdom

Source: Organization for Economic Cooperation and Development

expansionary measures at home. These, in turn, resulted in increased budget and balance-of-payments deficits and, often, serious inflationary pressures. In the wake of OPEC II, therefore, attempts were made to limit the overall inflationary consequences and to encourage the appropriate cost-price relationships.

Overall, inflation was somewhat lower in 1979-1980 than in the two years following OPEC I. In all major industrial countries as a group, consumer prices rose by about 24 percent during the earlier period as against 20.5 percent during the latter one. The concentration of those price rises also differed. During OPEC I, prices soared during the first 12 months of the oil shock, while in 1979-1980 their acceleration was considerably smoother and more protracted.

Another notable contrast between the two episodes was that the decline in economic activity in the industrial countries was somewhat less severe the second time around. One reason for this development was that business activity in the major countries was somewhat less synchronized than just prior to the 1975 recession, when most of the industrial countries had reached the end of their recovery phase simultaneously. Thus, in contrast to the United States, where real gross national product fell by 0.2 percent in 1980, Germany and Japan registered GNP growth rates of 1.8 and 4.2 percent, respectively. This decidedly uneven—one is tempted to say uncoordinated—performance resulted in a 1980 growth rate of 1.2 percent for the seven summit countries as a group, which contrasted sharply with zero growth in 1974-1975 (see Chart 1).

This marked contrast between the two OPEC episodes did not go unnoticed. As one author observed: "The difference in the international mood following the first oil shock in 1974 and the second in 1979 was . .striking."[9] As domestic demand and incomes were squeezed for the second time in less than a decade by higher energy prices, the authorities of the industrial countries made no serious attempt to coordinate their policy reactions in order to avert an economic downturn. The most important factor, Shonfield surmises, was that in the intervening five years they had had the rather novel experience of sustained high rates of inflation associated with relatively low levels of economic activity. This "made them nervous about policies which deliberately aimed to give a boost, however temporary, to domestic demand."

In fact, one striking aspect of OPEC II was that the second oil price rise was permitted to feed through the system much more rapidly than during OPEC I, when a number of countries had attempted to suppress or postpone the inevitable inflationary consequences. During OPEC II, by contrast, most countries allowed domestic energy prices to increase, so as to reduce dependence on imported energy. The United States, for instance, abolished the remaining price controls on domestically produced oil; Belgium adopted special energy-use taxes; and France and Italy introduced sharply higher public-utility charges.

These were then, one might say, natural reactions on the part of individual national authorities to the realities of the situation, and certainly not the outcome of at-

[9]Andrew Shonfield, "The World Economy 1979," in America and the World 1979, *Foreign Affairs* (Special Issue, Vol. 58, No. 3), p. 607.

tempts at coordination of those policies. Or, to go back to Whitman's point, it might be easy for an outside observer to assume that policy coordination had, in fact, occurred when common outside events had merely led to common policy responses.

The Locomotive Approach

Given the current state of the world economy, the call has gone out for the United States, or a handful of the larger countries, "to lead the world out of recession." Thus, Beryl Sprinkel, Under Secretary of the Treasury for Monetary Affairs, declared at a news conference in Paris last January—in an unofficial capacity, as it turned out—that it was "critically important" for industrial countries that had made good progress in the fight against inflation to take steps to assure "a credible economic expansion." More recently, former West German Chancellor Helmut Schmidt wrote that worldwide economic cooperation was not "imaginable without American leadership. . .Economic strength, as well as political and military power, predestines the United States to take the lead."[10]

While the term "locomotive" has not entered this debate so far, these recommendations strongly echo the earlier so-called locomotive approach to world economic recovery. That approach made its first appearance around 1976 and 1977, against a background of increasing dissatisfaction with the direction and pace of the economic recovery then under way. The argument itself had appeared as early as 1975 in the Organization for Economic Cooperation and Development's (OECD) year-end outlook, but it was in the less than satisfactory economic environment of 1976-1977 that it truly came to the fore. The so-called McCracken Report, *Towards Full Employment and Price Stability,* published by the OECD in June, 1977, suggested "that the favorably-placed countries which presently could expand more rapidly without risk of additional inflation should accept responsibility for maintaining the momentum of the recovery in world economic activity." (p. 237)

One version of this argument maintained that domestic expansion in the three stronger "locomotive" countries—the United States, Germany and Japan—would generate sufficient exports in the weaker countries to contribute significantly to world economic expansion in general. In other words, the so-called intercountry multipliers (i.e., the effects of spending by one country on income and output in another) would do the trick. Still, the size and actual transmission effects of those multipliers were being widely questioned.

Thus, the OECD's own international linkage model, developed in the late 1970's, suggested that a 1 percent autonomous domestic expenditure increase in the United States would boost growth in the seven summit countries by no more than 0.84 percent after a twelve-month period and by no more than 0.74 percent for the OECD as a whole. Similar 1 percent expenditure increases by Japan and Germany each would add less than ¼ of 1 percent to growth in the seven countries combined. These results were in broad aggreement with those derived from other econometric models, such as Professor Lawrence Klein's LINK model at the University of Pennsylvania, and with simpler calculations based on the importance of each major country's exports to the United States.

Another, somewhat less simplistic, version of the locomotive theory held that the mere example of a vigorous expansionary posture in the locomotive countries would help loosen domestic policy restraints in the weaker countries—that is, the fear of getting out too far ahead of their trading partners by expanding domestically themselves. In fact, the entire theory soon became the basis for a lively discussion, which, as Whitman noted, "produced heated, if somewhat stylized, debates among national delegates at international meetings, has heightened tensions in economic relationships among the leading nations of the 'Western' alliance, and has become the major topic of discussion at summit meetings of their heads of state."[11]

But reality soon proved that the international ramifications of such a policy were just too strong to allow a single country to plan its own actions without regard to their external implications. The foremost example is that of the United States which expanded its economy in 1977 and thereby moved clearly out ahead of other major industrial countries, mainly Germany and Japan, whose expansions did not parallel it. This led to a U.S. trade deficit of unprecedented magnitude, a severe depreciation of the dollar, and the renewal of strong inflationary pressures at home. While estimates vary, it is believed that perhaps as much as one-third of the 1977 trade deficit of $30.8 billion dollars was attributable to the disparity in the rates of cyclical expansion between this country and its major trading partners.

Again, at the 1978 Bonn economic summit, Germany pledged to provide additional fiscal stimulus equivalent to up to 1 percent of GNP. As we now know, the results were disastrous—sharply higher domestic inflation, balance-of-payments deficits (the first since 1950!) averaging $10 billion a year between 1979 and 1981, and a

[10]Helmut Schmidt, "The World Economy at Stake," *The Economist,* February 26, 1983, p. 30.

[11]Marina v. N. Whitman, "The Locomotive Approach to Sustaining World Recovery: Has it Run Out of Steam?," in William Fellner, ed., *Contemporary Economic Problems 1978.* Washington, D.C.: American Enterprise Institute for Public Policy, 1978, p. 252.

depreciating D-mark.[12] Lesser, but by no means less instructive, examples of the difficulties of trying to go one's own way in an increasingly interdependent world are the recent experience of Mexico and Mitterand's France.[13]

Thus, even if the United States were to embark on a course that would transform it into a locomotive for the rest of the world, such an expansion might well be derailed by a renewed depreciation of the dollar before other countries had their export increases spark a full-fledged recovery. Moreover, since the United States is a large "common market," it buys relatively little from the rest of the world. Last year, merchandise imports equaled less than 9 percent of GNP and only 36 percent of those imports came from Western Europe and Japan. At one point last year, the OECD estimated that even if the U.S. economy had grown by 2½ percentage points in 1982, the boost to growth in Western Europe and Japan would have been no more than an additional 0.4 percentage points.

The Convoy Approach

The call for expansion by countries in a position to do so—or, in Helmut Schmidt's words, "some countries have more room for maneuver than others" and this room "can be expanded by concerted action"—similarly echoes a specific policy recommendation of the late 1970's. At its first 1978 meeting, in early March, the OECD's Economic Policy Committee had agreed on the desirability of a "concerted effort" which, in contrast to the locomotive approach, would involve a larger number of countries.

This greatly expanded scenario distinguished three groups of countries: (1) those with strong internal and external positions that could afford to expand at a moderate, but still significant, pace; (2) those in which domestic stabilization policies had been characterized by "very-very cautious attitudes," but which had had "some measure of success" and, therefore, were in a position to move cautiously in the direction of expansion; and (3) those that should remain "extremely chary about stimulating their economies further."

As an illustration of what such a "concerted effort" might accomplish, the OECD Secretariat worked out two simulations. The first estimated what would happen if the five countries in the first group—Japan, Germany, Belgium, the Netherlands, and Switzerland—were to expand their economies by an extra 1 percent. Such action "would not only provide an impetus to these economies but would also feed back" to them. Still, this would boost total output in the 24 member countries by no more than 0.78 percent.

The second simulation suggested what would happen if the so-called convalescent countries—Canada, France, Italy, and the United Kingdom—seized on the benefits which the action taken by the first group conferred on their external accounts and began to expand on their own. "If they expanded in such a way that their imports increased to match the rise in their exports, they would have higher GNP, yet their balance-of-payments situation would be no worse than before the 'concerted effort' began." On this second assumption, the growth rate for the entire OECD area would be boosted by 1.1 percent above what it would otherwise have been.

The press immediately dubbed the concerted effort the "convoy approach," in contrast to the earlier "locomotive approach." However, Charles Schultze, then chairman of the U.S. Council of Economic Advisers and also of the OECD committee, found the term inappropriate. "I think there is some problem with that analogy," he was quoted as saying, "since my recollection of a convoy is that every truck travels at the same speed, and that's not what we are suggesting."[14] He might have added that it is the speed of the slowest member of the group.

Whether the term was accurate or even appropriate, the OECD's simulations made it quite clear that the greatest contributions to world growth still would have to originate in the strong countries—the original "locomotives." Moreover, at the time of the Bonn summit in 1978 there was evidence that the "convalescent" countries—Britain, France and Italy—would have taken expansionary measures anyhow, whether or not a new approach to world economic growth had been formulated. Calling the operation "concerted action," however, gave it a somewhat more purposeful air, while at the same time taking some of the pressure off Germany and Japan.

In any event, the Bonn summit resulted in individual pledges by the seven participants to take specific action, depending on their particular situations, to raise the level of growth, encourage or increase domestic demand, and fight inflation. "Sustained effort," rather than impossible and unattainable promises, constituted both the

[12]Campaign politics seem to have entered here, too. Haberler has remarked that "the decision to give in to the pressure to act as a locomotive was probably made easier by the realization that pumping up the economy was bound to help the government in the upcoming election." Gottfried Haberler, "The Economic Malaise of the 1980's: A Positive Program for a Benevolent and Enlightened Dictator," in William Fellner, Project Director, *Essays in Contemporary Economic Problems*, 1981-1982 Edition. Washington, D.C.: American Enterprise Institute, 1981, p. 236.

[13]Cf. also Helmut Schmidt's remark that "France's example has shown that purely expansionary national measures are not enough if they are not supported by coordinated action by other countries." "The World Economy at Stake," p. 23.

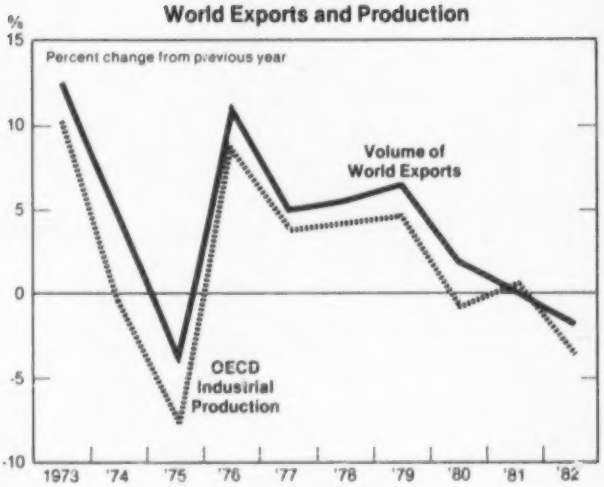
[14]"Concerted Effort for Expansion," *The OECD Observer*, March, 1978, p. 12.

tone and the reality of the meeting. Thus, while that meeting agreed "on a comprehensive strategy," covering a wide spectrum of international issues, each country committed itself merely to contribute to the overall scheme according to its own lights and by its own, separate policy package.

Then Treasury Secretary Blumenthal felt that "the thrust of the three previous summits reached the height of refinement at Bonn."[15] However, separate national policy packages—which by sheer luck add up to a grand and orderly design—are probably as far as concerted action can ever hope to go. The current debate over "policy coordination" or "a set of mutually consistent policies" can thus imply no more than individual countries' policy programs that somehow, in the aggregate, come to form a comprehensive strategy. Or, as a long-time member of Congress remarked some years ago: "There are those who would question the wisdom of an annual economic summit, primarily because it is so difficult for America or any other nation to get all the bricks into place."[16]

Chart 2

World Exports and Production



Sources: Organization for Economic Cooperation and Development, International Monetary Fund

The United States in the World Economy

Whether economic policies ultimately will be coordinated or will converge, whether world economic recovery will come about through the locomotive or the convoy approach, it is a fact of life that policy decisions and the resulting changes in economic activity in the major countries *do* have an impact on other countries' economies. The vehicle for this transmission effect is, of course, world trade—world economic activity and world trade being closely related in fact (see Chart 2).

This has become of no small importance to the major actor on the international economic scene, the United States, since the increasing economic interdependence among countries has brought with it a significant increase in this country's "openness" and, therefore, in its sensitivity to influences emanating from abroad. The ratio of U.S. merchandise trade to gross national product doubled between 1970 and 1980—a far larger percentage increase than for any other industrial country, although starting from a very small base. The ratio of foreign trade broadly defined—that is, including both goods and services—to GNP similarly rose from about 10 to 25 percent over the same period.

Since international investment increased even more rapidly than international trade, the flow of investment income rose even more. U.S. receipts of income on its foreign investment, both direct and portfolio, had been equivalent to less than 1 percent of GNP in 1960, but rose to 2.8 percent in 1980. U.S. payments of such income to foreigners, which had been equal to only 0.2 percent of GNP in 1960, had risen to 1.6 percent in 1980. Moreover, income from U.S. foreign direct investment has become a substantial part of overall corporate profits—nearly 15 percent of such profits before, and over 22 percent after, taxes.

The rapid increase in foreign direct investment in general—witness the expansion of foreign investment in the United States, the so-called financial invasion of America—has been accompanied by an increase in the international mobility of financial capital of all types—of funds, that is, that do not entail the control of enterprises. The stock of such assets appears to have increased greatly in relation to such other aggregates as output, international trade, or total wealth. This, of course, brings with it a certain reduction in the freedom of the U.S. monetary authorities to pursue their policies independently of developments in other countries.

In fact, the developments just sketched connote a definite erosion in the dominant economic position which the United States had held in the early post-World War II period—an erosion that, according to some observers, suggests a return to more normal historical patterns. At the same time, this weakening of the earlier U.S. leadership, the greater integration of trade, and the internationalization of holdings of liquid assets, combined with the tendency of individual countries to pursue their own short-term interests in the area of economic policy, make the world economic system much more vulnerable to cyclical disturbances. In the United States, especially, this interdependence has come to be seen as a two-edged sword. There is, generally speaking, growing

[15]Testimony before that Joint Economic Committee. Department of the Treasury, *News* (B-1716), July 11, 1979, p. 2.

[16]Representative Parren J. Mitchell at Joint Economic Committee hearings, *The 1978 Midyear Review of the Economy*, July 12, 1978, p. 277.

Table 1: Real Gross National Product and Domestic Demand, 1974-1982

	GNP	Net exports	Domestic demand	Change in GNP	Change in Domestic demand	Impact of net exports
	(Billions of 1972 Dollars)			(Percent)		(Percent)
	(1)	(2)	(3)	(4)	(5)	(6)
1974	1,248.0	27.8	1,220.2	−0.6	−1.6	+1.0
1975	1,233.9	32.2	1,201.7	−1.1	−1.5	+0.4
1976	1,330.4	25.4	1,275.0	+5.4	+6.1	−0.7
1977	1,371.7	21.9	1,349.8	+5.5	+5.9	−0.4
1978	1,436.9	24.6	1,412.3	+4.7	+4.6	+0.1
1979	1,483.0	37.7	1,445.3	+3.2	+2.3	+0.9
1980	1,474.0	50.6	1,423.4	−0.6	−1.5	+0.9
1981	1,502.6	42.0	1,460.6	+1.9	+2.6	−0.7
1982	1,476.0	30.9	1,445.1	−1.8	−1.1	−0.7

Source: U.S. Department of Commerce

concern with the impact on the domestic economy of economic policy decisions taken abroad. At the same time, however, there appears to be continued reluctance on the part of U.S. policymakers to subordinate policy decisions, and hence the country's own domestic interests, to the broader considerations of an effective and efficiently functioning international system.

How powerfully the outside world impinges on the U.S. economy was made amply clear in 1982, when U.S. merchandise exports (in dollar terms) declined for the first time in 25 years. That drop in exports—which in the national accounts translates into the somewhat more complex "net exports of goods and services" (see box)—was the single biggest factor in the decline of U.S. economic activity last year—substantially larger than the drop in housing activity, for instance. Repeated warnings that the decline in exports—which reflected both the stronger dollar and the worldwide recession—may have cost the country up to a full percentage point in annual GNP growth are borne out by the relevant statistics.

As Table 1 shows, over the years the contribution of net exports—the difference between exports and imports of goods and services—has fluctuated considerably. In both 1975 and 1980, an increase in net exports helped moderate the fall in real output. Hence, with the assistance of that increase, overall GNP declined by less than domestic demand alone. Conversely, declines in net exports in 1977 and 1981 had a restraining effect on total output; therefore, domestic demand rose by more than GNP as a whole. For last year, the story is much the same—domestic demand declined 0.7 points less than total GNP.

"When America Sneezes . . ."

This considerable—and, one must assume, generally unsuspected—influence of exports on U.S. economic performance sheds new light on the old debate over the extent to which fluctuations in economic activity in the United States affect activity in the rest of the world and vice versa. For a long time, the popular theory was that when the United States sneezed, Europe caught a cold. That theory implied, in effect, that when the United States economy suffered a recession—accompanied by a reduction in demand, including that for imports—such a reduction was translated into a relatively severe contraction in those countries for which the United States was a major market.

The sneeze hypothesis presumably reflected the notion that because of the size and importance of the United States economy, both absolutely and relative to other economies, anything that happened in the United States necessarily had to affect events abroad. While this may have been true in itself, it did not necessarily mean that cyclical fluctuations in the United States would automatically cause parallel cyclical changes in other countries in any direct way or vice versa. In the late 1970's, Philip Klein, of the University of Pennsylvania, found "little evidence to support the notion that U.S. cyclical developments have a dominant impact on cyclical changes in foreign countries through more or less coincident changes in U.S. imports. In fact, we have found as much or more support for the notion that foreign cyclical changes affect U.S. growth cycles by affecting U.S. exports."[17]

There is, of course, a difference between ordinary and abnormal circumstances. As was pointed out earlier, both the United States and other major industrial countries tend to experience fairly large similarities in cyclical fluctuations when these reflect the impact of

[17]Philip A. Klein, *Business Cycles in the Postwar World.* Washington, D.C.: American Enterprise Institute for Public Policy Research, 1976, p. 40.

International Transactions and the Domestic Economy: Some Conceptual Problems

The international component of the U.S. national accounts consists of "net exports," that is the *difference* between total exports and total imports of goods and services. Why do only *net* exports enter into the national accounts? Exports clearly are part of domestic production, and hence create employment and income payments to the producers of those exports. Spending on imports, on the other hand, leads neither to domestic employment and production nor to earnings by domestic producers. On the contrary, it represents the substitution of foreign for domestic production and must, therefore, be excluded from GNP. Thus, only the net difference between exports and imports adds to domestic production. It is this net figure (which includes income on investments, except interest payments on government securities) that, for all practical purposes, measures the impact of U.S. international transactions on domestic economic activity.

Serious questions have been raised from time to time as to whether the concept of "net exports" adequately reflects the importance of international transactions to the United States—or to any other economy. For instance, should exports and imports perhaps be recorded separately and, if so, should they be measured in the aggregate or should more detail be provided? Moreover, are goods and services as such an adequate gauge of the impact of international transactions, or should one adopt a broader measure—perhaps one that shows the effect of all international transactions on the domestic money supply? Last, but not least, how are domestic prices and production affected by changes in the prices of imports and exports—that is, in the country's "terms of trade"?

These and related questions have given rise to a careful reexamination of the manner in which the U.S. external accounts—exports of both goods and services—are integrated into calculations of real GNP. Briefly stated, under current procedures export values are deflated by export prices and import values are deflated by import prices. But since the latter have gone up much more rapidly than export prices—largely because of the enormous increase in oil prices during the 1970's—import values are deflated much more than export values. This gives rise to large export surpluses in constant dollars, even though the net export balance in current dollars may be small or even negative. One result of this anomaly is that net exports of goods and services have been carrying more weight, both when they have risen and when they have declined, in real GNP than in current-dollar GNP.

This curious state of affairs has raised the broader question of the extent to which a country's real output, and hence its income, are affected when the same physical quantity of exports no longer buys as large a physical quantity of imports as before (when there is, in technical language, a decline in the terms of trade). To obtain a more accurate picture, it has been suggested that net exports be deflated by an appropriate import-price index (which measures real "command" over imported goods and services), rather than deflating exports and imports separately and then simply computing the difference. Such a series, showing how this country's "command" over goods and services from domestic production has declined as a result of the deterioration in the terms of trade is shown in the accompanying table.

Real GNP and Net Exports, Adjusted for "Command" Over Goods and Services

		Net Exports		*Real GNP*		
	Real GNP	*As shown in GNP*	*Adjusted for "Command" Over Goods and Services*	*Adjusted for "Command" Over Goods and Services*	*Change in Real GNP* *Unadjusted*	*Adjusted*
	(Billions of 1972 Dollars)				(Percent)	
1974	1,248.0	27.8	19.7	1,228.4	−0.6	−1.9
1975	1,233.9	32.2	17.3	1,216.6	−1.1	−1.0
1976	1,300.4	25.4	18.0	1,282.4	+5.4	+5.4
1977	1,371.7	21.9	24.0	1,347.7	+5.5	+5.1
1978	1,436.9	24.6	24.9	1,412.1	+4.7	+4.8
1979	1,483.0	37.7	32.2	1,450.8	+3.2	+2.7
1980	1,474.0	50.6	41.9	1,432.1	−0.6	−1.3
1981	1,502.6	42.0	33.1	1,469.5	+1.9	+2.6
1982	1,476.0	30.9	24.4	1,451.6	−1.8	−1.2

Source: Edward F. Denison, "International Transactions in Measures of the Nation's Production," *Survey of Current Business*, May, 1981; U.S. Department of Commerce.

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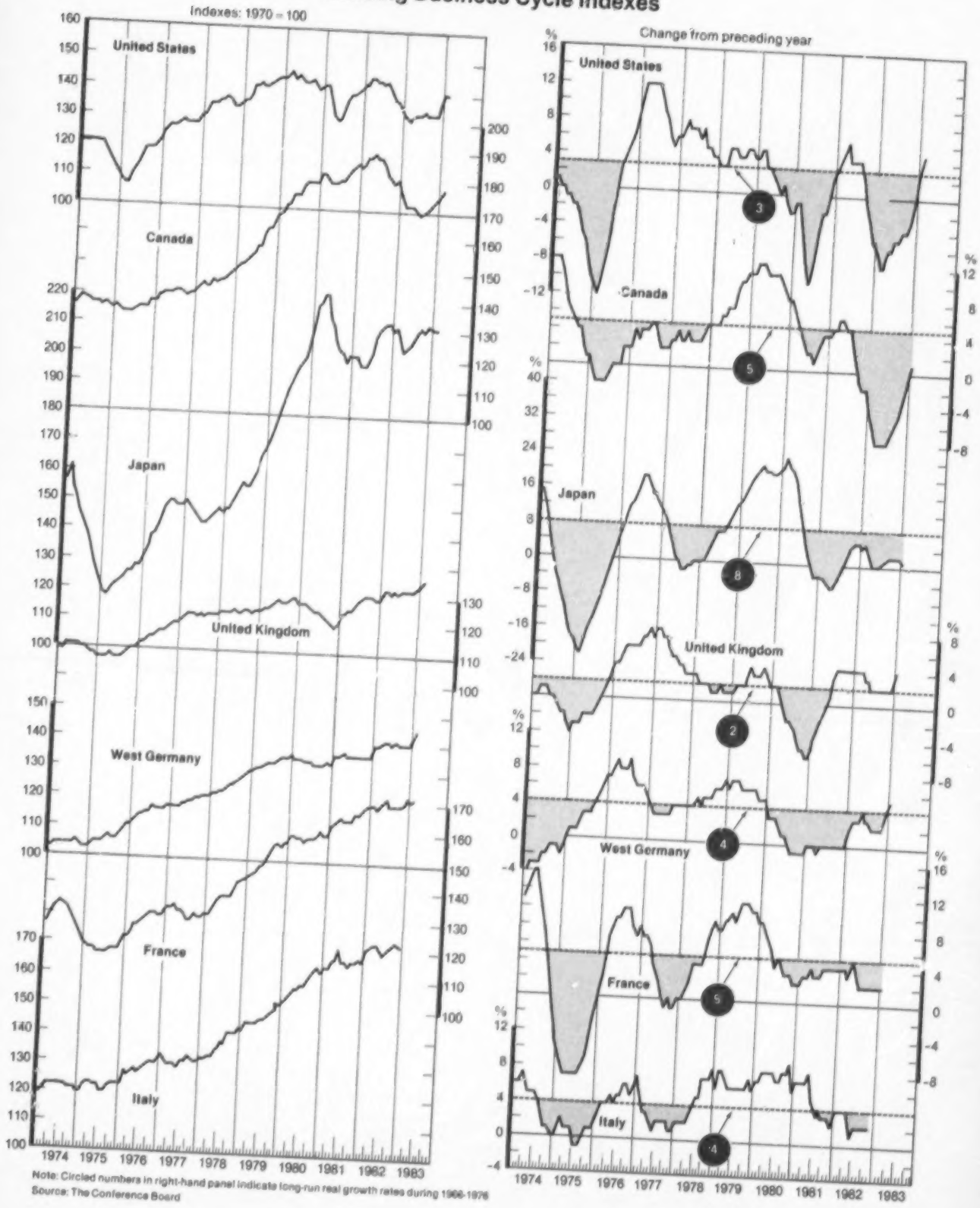
Chart 3

Leading Business Cycle Indexes



Note: Circled numbers in right-hand panel indicate long-run real growth rates during 1966-1976
Source: The Conference Board

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